

A MINUTEN PROBE FOR SMALL ORGANISMS¹

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Careful dissection of small organisms requires fine tools. In doing classical and molecular genetics, we have been constantly challenged to dissect-out portions of the body, either to make observations or to remove alleged excessive amounts of inhibitors that reduce DNA polymerase activity in PCR (Do and Adams 1991, Fang *et al.* 1992, Gelfand 1989). By combining our backgrounds in organismic and molecular biology, we designed an easy-to-build and durable probe (Fig. 1) that has helped us perform good dissections. We call it the minuten probe.

To build a minuten probe, simply take a p20 pipet tip (cost approx. \$0.03 US dollars per tip) and carefully melt its tip with the flame of a Bunsen burner or an alcohol lamp. Using fine forceps, promptly insert a stainless steel minuten (cost approx. \$0.03 US dollars per minuten) in the melted tip and let them cool as this assures a firm grip of the minuten to the plastic. We have built up to five probes per minute. The stiffness of the minuten probe can be varied with the depth of penetration of the minuten into the pipet tip. The probe can be connected to a wooden stick (cost approx. \$0.10 US dollars per stick) that serves as a handle. Total cost, approx. \$0.15-0.20 US dollars, excluding labor.

The minuten probes are sterilizable (flaming has to be done carefully to prevent remelting of the pipette tip or damaging the wooden stick). The minuten

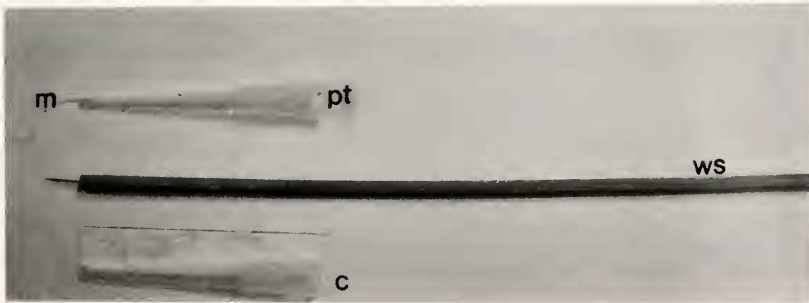


Fig. 1. Minuten probe. Pipet tip (pt), minuten (m), wooden stick (ws). Minuten can be protected with an additional pipet tip that serves as cap (c).

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does not need to be epoxied to the pipette tip, which takes hours to dry, or placed in metal pin-holders, which cost at least \$8.00 US dollars each. Furthermore, since minutens are already quite fine (approx. 0.15-0.20mm) and about half or more of them are sold with one end already tapered to a point, a DC power supply, KOH solution, and a fume hood (Norton and Sanders 1985) may not be needed. In six months, we have not seen signs of corrosion or flaking in our probes.

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